Public Knowledge

June 23, 2003

Commissioner Jonathan S. Adelstein
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: MB Docket No. 02-230

Dear Commissioner Adelstein,

This letter responds to the May 12 letter to you from Jack Valenti regarding the Broadcast Flag proposal currently before the Commission. We are writing because there are aspects of Mr. Valenti's letter that are deeply misleading from a technical standpoint. Furthermore, we believe, once you understand the nature of those technical errors, it becomes apparent that digital television (DTV) is actually ***less*** subject to any "Napster effect" than is current analog television

Appended to the May 12th letter is a printout of a BBC News story regarding the "Napster effect" -- Internet file-trading -- attributable to new technologies such as "BitTorrent" when used over broadband Internet connections.

What the letter fails to note is that the BBC News story involved Internet trading of ***reduced-resolution*** files created from ***analog television shows***, not files created from DTV. These computer files generated from analog TV shows are only a fraction of the size of digital-television shows (even when the DTV content is only at standard resolution). Because digital TV files are many times as large as those produced in this way from analog TV programs, download times will be many times longer, even over broadband connections, even with the use of tools such as BitTorrent. As a result, the claim that there is a looming "Napster effect" is vastly overstated, since the success of file-trading services like Napster was attributable to being able to download a digitized song in *minutes* -- not in a full day, as with digitized analog TV content, or in four to six days (or more), as may be necessary to download an hour of DTV programming.

Please note the significance of the fact that the files being traded over the Internet via BitTorrent are routinely and customarily ***reduced in resolution prior to transmission***; as a result the content is less than half the resolution even of analog television programming, which in turn is considerably lower in resolution than most DTV formats. Even so, these reduced-resolution, comparatively small digital files produced from analog TV content take many hours, and even an entire day to download, as the BBC News article expressly states.

The letter fails to mention that, if a BitTorrent user who is trading television content uses his computer for any other purpose during the file-trading, such use will slow that trading down. The letter further fails to note that BitTorrent users must allocate some of their "upstream" bandwidth to share files with other users in order to take advantage of the BitTorrent file-trading

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efficiencies -- as a result, BitTorrent users do not get to take advantage of the full bandwidth of their broadband connections when they trade these files.

The implication of all these considerations is obvious: the best way to protect television content from piracy will be to accelerate the DTV transition and compel broadcasters to transmit the majority of their content in HDTV formats. Since HDTV files are particularly large, they are therefore particularly difficult to trade over the Internet (or, for that matter, to store in large numbers on one's computer's hard disk). The broadcast-flag scheme proposed by the MPAA and others, in contrast to the elegant and simple solution outlined in the preceding two sentences, requires massive regulation of computers and other tools. The broadcast-flag scheme also is particularly weak when it comes to preventing infringement, nor does it lend itself to nuanced encoding rules for home use of the content. In addition, the broadcast-flag scheme poses immense difficulties for enforcement, especially when demodulation of ATSC becomes routinely possible to implement in software.

To make the software-modulator point clear, consider this: Even if broadband Internet capability increases rapidly in the next few years, the broadcast-flag scheme will become irrelevant, not least because faster computers will be able to demodulate ATSC broadcasts in software. These computers, which are just around the corner, will be able to save broadcast TV content in an insecure environment that doesn't take note of the presence of any broadcast flag.

There are excellent choices when it comes to protecting television content, but the broadcast-flag scheme is a not one of these -- it is a deeply flawed mechanism that imposes many costs on manufacturers and consumers without providing meaningful or long-term protection. We look forward to talking to you about alternatives such as accelerating the transition to use of HDTV formats, which we outline here, and encryption at the source, which is extensively discussed in several filings under this docket item. These are measures that, unlike the broadcast flag, will actually work -- without imposing undue costs upon consumers or manufacturers in other industrial sectors.

Our filings in the broadcast-flag and cable-compatibility proceedings include further, detailed discussion of these alternatives, along with detailed criticism of the broadcast flag scheme.

We look forward to discussing these matters with you.

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